```
  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *


FILE 'HOME' ENTERED AT 15:45:56 ON 15 JAN 2002

=> file reg
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.15       0.15

FILE 'REGISTRY' ENTERED AT 15:46:08 ON 15 JAN 2002
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DICTIONARY FILE UPDATES:  14 JAN 2002  HIGHEST RN 383122-99-4

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

  Please note that search-term pricing does apply when
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Crossover limits have been increased.  See HELP CROSSOVER for details.

Calculated physical property data is now available.  See HELP PROPERTIES
for more information.  See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e sildenafil/cn
E1            1     SILCRON G 900/CN
E2            1     SILDATE/CN
E3            1 --> SILDENAFIL/CN
E4            1     SILDENAFIL CITRATE/CN
E5            1     SILDEX/CN
E6            1     SILDEX H 121/CN
E7            1     SILDEX H 32/CN
E8            1     SILDEX H 51/CN
E9            1     SILDEX H 52/CN
E10           1     SILDEX L 51/CN
E11           1     SILECE/CN
E12           1     SILECTRON/CN

=> s e3,e4
              1 SILDENAFIL/CN
              1 "SILDENAFIL CITRATE"/CN
L1            2 (SILDENAFIL/CN OR "SILDENAFIL CITRATE"/CN)

=> d l1

L1   ANSWER 1 OF 2  REGISTRY  COPYRIGHT 2002 ACS
RN   171599-83-0  REGISTRY
CN   Piperazine, 1-[[3-(4,7-dihydro-1-methyl-7-oxo-3-propyl-1H-pyrazolo[4,3-
     d]pyrimidin-5-yl)-4-ethoxyphenyl]sulfonyl]-4-methyl-, 2-hydroxy-1,2,3-
     propanetricarboxylate (1:1) (9CI)  (CA INDEX NAME)
OTHER NAMES:
CN   1-[[3-(6,7-Dihydro-1-methyl-7-oxo-3-propyl-1H-pyrazolo[4,3-d]pyrimidin-5-
     yl)-4-ethoxyphenyl]sulfonyl]-4-methylpiperazine, 2-hydroxy-1,2,3-
     propanetricarboxylate (1:1)
CN   Sildenafil citrate
```

```
FULL ESTIMATED COST                                    ENTRY     SESSION
                                                        9.90      10.05

=> file reg
COST IN U.S. DOLLARS
                                                    SINCE FILE     TOTAL
                                                       ENTRY     SESSION
FULL ESTIMATED COST                                     9.90      10.05

FILE 'REGISTRY' ENTERED AT 15:48:22 ON 15 JAN 2002
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STRUCTURE FILE UPDATES:   14 JAN 2002  HIGHEST RN 383122-99-4
DICTIONARY FILE UPDATES:  14 JAN 2002  HIGHEST RN 383122-99-4

TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Calculated physical property data is now available.  See HELP PROPERTIES
for more information.  See STNote 27, Searching Properties in the CAS
Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> e sildenafil/cn
E1            1     SILCRON G 900/CN
E2            1     SILDATE/CN
E3            1 --> SILDENAFIL/CN
E4            1     SILDENAFIL CITRATE/CN
E5            1     SILDEX/CN
E6            1     SILDEX H 121/CN
E7            1     SILDEX H 32/CN
E8            1     SILDEX H 51/CN
E9            1     SILDEX H 52/CN
E10           1     SILDEX L 51/CN
E11           1     SILECE/CN
E12           1     SILECTRON/CN

=> s e3
L2            1 SILDENAFIL/CN

=> d l2

L2   ANSWER 1 OF 1  REGISTRY  COPYRIGHT 2002 ACS
RN   139755-83-2  REGISTRY
CN   Piperazine, 1-[[3-(4,7-dihydro-1-methyl-7-oxo-3-propyl-1H-pyrazolo[4,3-
     d]pyrimidin-5-yl)-4-ethoxyphenyl]sulfonyl]-4-methyl- (9CI)  (CA INDEX
     NAME)
OTHER CA INDEX NAMES:
CN   1H-Pyrazolo[4,3-d]pyrimidine, piperazine deriv.
OTHER NAMES:
CN   Sildenafil
FS   3D CONCORD
MF   C22 H30 N6 O4 S
CI   COM
SR   CA
LC   STN Files:   ADISINSIGHT, ADISNEWS, ANABSTR, BIOBUSINESS, BIOSIS,
       BIOTECHNO, CA, CANCERLIT, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CIN,
       CSCHEM, DDFU, DRUGNL, DRUGPAT, DRUGU, DRUGUPDATES, EMBASE, IPA, MEDLINE,
       MRCK*, PHAR, PROMT, SYNTHLINE, TOXCENTER, TOXLIT, USAN, USPATFULL, VETU
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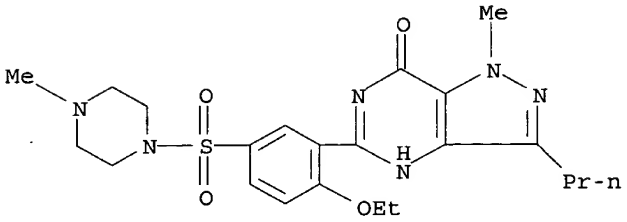
(*File contains numerically searchable property data)
Other Sources: WHO



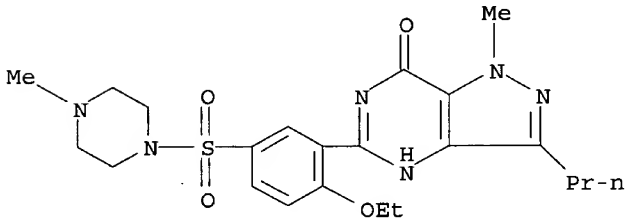
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

236 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
241 REFERENCES IN FILE CAPLUS (1967 TO DATE)

CN ~~UK-92480~~-10
CN Viagra
MF C22 H30 N6 O4 S . C6 H8 O7
CI COM
SR CAS Registry Services
LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, CA, CAPLUS, CBNB, CEN, CHEMCATS, CIN, DIOGENES, DRUGPAT, DRUGUPDATES, IPA, MRCK*, PHAR, PHARMASEARCH, PIRA, PROMT, RTECS*, SYNTHLINE, TOXCENTER, TOXLIT, USAN, USPATFULL
(*File contains numerically searchable property data)

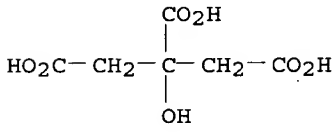
CM 1

CRN 139755-83-2
CMF C22 H30 N6 O4 S

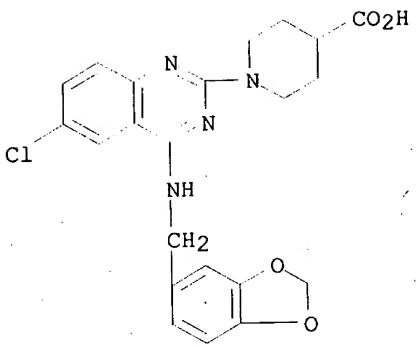


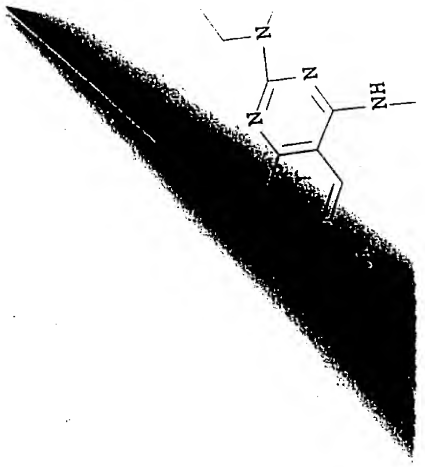
CM 2

CRN 77-92-9
CMF C6 H8 O7



146 REFERENCES IN FILE CA (1967 TO DATE)
146 REFERENCES IN FILE CAPLUS (1967 TO DATE)





● Na·

L46 ANSWER 23 OF 63 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:303030 CAPLUS
DOCUMENT NUMBER: 126:282836
TITLE: Chloroquinazoline derivative compositions with improved bioavailability
INVENTOR(S): Kato, Akyoshi; Yoshiba, Takako; Yamakawa, Ichiro; Ando, Eishin
PATENT ASSIGNEE(S): Eisai Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

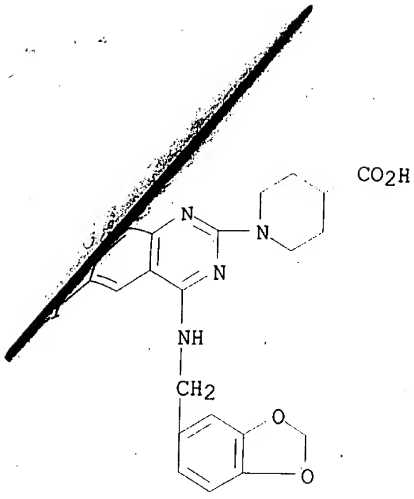
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09059159	A2	19970304	JP 1995-216329	19950824

PRIORITY APPLN. INFO.: JP 1995-216329 19950824

AB The title compns. are manufd. by dissolving 2-(4-carboxypiperidino)-4-(3,4-methylenedioxybenzyl)amino-6-chloroquinazoline Na salt (I) and high-mol. wt. substances in EtOH (and H2O), then removing the solvent(s). Granules contg. I and high-mol. wt. substances are also claimed. I is useful for treatment of chronic heart failure and pulmonary hypertension (no data). Hydroxypropylcellulose acetate phthalate (5 g) was mixed with 1 g I in aq. EtOH, then evapd. to give a compn., which showed better soly. in artificial intestinal juice.

IT **150452-19-0**
RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(6-chloroquinazoline deriv. compns. with improved bioavailability for treatment of heart failure and **pulmonary hypertension**
)

RN 150452-19-0 CAPLUS
CN 4-Piperidinecarboxylic acid, 1-[4-[(1,3-benzodioxol-5-ylmethyl)amino]-6-chloro-2-quinazolinyl]-, monosodium salt (9CI) (CA INDEX NAME)

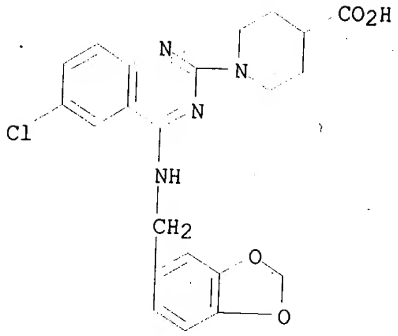


● Na

L46 ANSWER 24 OF 63 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1996:702723 CAPLUS
DOCUMENT NUMBER: 126:14503
TITLE: A selective type V phosphodiesterase inhibitor, E4021, protects [against] the development of right ventricular overload and medial thickening of **pulmonary** arteries in a rat model of **pulmonary hypertension**
AUTHOR(S): Takahashi, Takashi; Kanda, Tsugiyasu; Inoue, Masahiro; Suzuki, Tadashi; Kobayashi, Isao; Kodama, Kohtarou; Nagai, Ryozo
CORPORATE SOURCE: Second Department Internal Medicine, Gunma University School medicine, Maebashi, 371, Japan
SOURCE: Life Sciences (1996), 59(23), PL371-PL377
CODEN: LIFSAK; ISSN: 0024-3205
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effects of oral administration of E4021, a type V phosphodiesterase inhibitor (10, 30, and 100 mg/kg/day), on development of monocrotaline-induced right ventricular overload and medial thickening of pulmonary arteries were studied in rats. Right ventricular systolic pressure, the ratio right/left ventricular mass, right ventricular wall thickness, right ventricular myocardial fiber diam., and the medial thickness and smooth muscle area in pulmonary arteries were less after 28 days in rats that received E4021 at 30 and 100 mg/kg/day than in controls given monocrotaline only. Myofiber diam., medial thickness, and smooth muscle area were lower in rats treated with E4021 at 100 mg/kg/day than in those receiving 30 mg/kg/day. E4021 at 100 mg/kg/day protected against the development of right ventricular overload and medial thickening of pulmonary arteries.

IT **150452-19-0**, E 4021
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(heart overload and **pulmonary hypertension** inhibition by)
RN 150452-19-0 CAPLUS
CN 4-Piperidinecarboxylic acid, 1-[4-[(1,3-benzodioxol-5-ylmethyl)amino]-6-chloro-2-quinazolinyl]-, monosodium salt (9CI) (CA INDEX NAME)



● Na

L46 ANSWER 25 OF 63 USPATFULL

ACCESSION NUMBER:	2003:31136 USPATFULL
TITLE:	Nitrosated and nitrosylated phosphodiesterase inhibitors, compositions and methods of use
INVENTOR(S):	Garvey, David S., Dover, MA, UNITED STATES De Tejada, Inigo Saenz, Madrid, SPAIN Earl, Richard A., Westford, MA, UNITED STATES Khanapure, Subhash P., Clinton, MA, UNITED STATES

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003023087	A1	20030130
APPLICATION INFO.:	US 2002-216886	A1	20020813 (10)

RELATED APPLN. INFO.: Division of Ser. No. US 2001-941691, filed on 30 Aug 2001, GRANTED, Pat. No. US 6462044 Continuation of Ser. No. US 1999-387727, filed on 1 Sep 1999, GRANTED, Pat. No. US 6331543 Continuation-in-part of Ser. No. US 1998-145142, filed on 1 Sep 1998, GRANTED, Pat. No. US 5958926 Continuation-in-part of Ser. No. US 1996-740764, filed on 1 Nov 1996, GRANTED, Pat. No. US 5874437 Continuation-in-part of Ser. No. WO 1997-US19870, filed on 31 Oct 1997, PENDING

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	EDWARD D GRIEFF, HALE & DORR LLP, 1455 PENNSYLVANIA AVE, NW, WASHINGTON, DC, 20004
NUMBER OF CLAIMS:	71
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	60 Drawing Page(s)
LINE COUNT:	4108

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes novel nitrosated and/or nitrosylated phosphodiesterase inhibitors, and novel compositions containing at least one nitrosated and/or nitrosylated phosphodiesterase inhibitor, and, optionally, one or more compounds that donate, transfer or release nitric oxide, elevate endogenous levels of endothelium-derived relaxing factor, stimulate endogenous synthesis of nitric oxide or is a substrate for nitric oxide synthase and/or one or more vasoactive agents. The present invention also provides novel compositions containing at least one phosphodiesterase inhibitor, and one or more compounds that donate, transfer or release nitric oxide, elevate endogenous levels of